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UNITED STATES DEPARTMENT OF AGRICULTURE

BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

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TITLE

DESCRIPTIONS AND ILLUSTRATIONS OF RISK RATINGS

FOR

PONDEROSA AND JEFFREY PINE IN EASTSIDE FORESTS OF CALIFORNIA

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SUBJECT—

INDEX NO.—

DESCRIPTIONS OF RISK RATINGS FOR PONDEROSA AND JEFFREY PINE IN EASTSIDE FOREST AREAS OF CALIFORNIA

The characters used in defining risk are concerned only with the apparent vigor of the crown as evidenced by the foliage, twigs, and branches. Crown form and crown position do not enter into the appraisal of risk from insect attack. The factor of age also is not considered in risk appraisals. However, overmature trees are more susceptible to insect attack than similar tree types of younger age. Other things being equal, older trees are of higher risk.

In the following descriptions, risk has been tentatively segregated into four groups. These four groups have been established primarily to provide sufficiently small gradations to allow for variation in application in selective logging practice. Where the prevention of insect loss in the near future is the primary objective, either the highest risk group alone (Risk 4) or the two highest risk groups (Risks 3 and 4) may be removed. Where utilization cuts are desired, material from the moderate and high risk groups might be supplemented with trees that are cut for silvicultural or economic reasons.

DESCRIPTIONS OF RISK RATINGS

RISK I — LOW RISK

Foliage of healthy appearance, needles usually long and coarse, color good dark green. Foliage complement (needles per twig) normal or above normal. Few twigs lacking foliage. No weakened portions of crown or dead or dying branches.

RISK II — MODERATE RISK

Foliage mostly healthy, needle length average or better, color fair to good. Foliage complement generally average. Some twigs or branches dying or dead, but such injury not localized to form definite "weak" spots in crown.

RISK III — HIGH RISK

Foliage, at least over a considerable portion of crown, average or shorter than average in length, foliage complement on twigs less than normal, thin, bunchy, or unhealthy. Foliage color fair to poor. Some to many twigs or branches lacking foliage, fading, or dead, often localized to form "weakened" portions of the crown.

RISK IV — VERY HIGH RISK

Foliage mostly unhealthy, needles short, color poor, needle complement sparse over considerable portions of crown. Some to many twigs and branches dead or dying, portions of crown definitely weakened. Active topkilling or partial infestations often present.

August 1, 1942

J. W. Bongberg

Some types of tree injuries are not associated with a normal rating of risk. They may be the result of accident, such as lightning or mechanical injury, and when such injuries affect the immediate risk of infestation and death they should be appraised independently of the characters given for rating risk. Trees having newly broken tops, severe injuries in the crowns resulting from falling snags, etc., or trees which have been partially unrooted should be considered as high risks. In addition, the following tree characters are not considered to be primarily concerned with current risk.

Stag Tops: An old bare spike, which is the result of an old topkilling injury, is termed a stag top. Although a deterioration of the remaining crown often follows below stag tops and such trees are rated as high risks, the stag top alone is not considered a character of high risk. When the remaining parts of the crown are vigorous and healthy, such trees can be considered low risks.

Mule Tail Foliage: In some trees the foliage has a distinctly bunchy appearance though the needles are long. This condition seems to be due to a peculiar development of the branches and apparently is a normal characteristic of a certain strain or type of pine tree. Other things being equal, it should be ignored in rating risk.

Off Color Due to Cold: In certain years and locations needles may be browned due to the effects of low temperatures. Light, local or generalized light browning of needles is not usually considered in rating risk. However, in some areas cold injury has been so severe as to cause a cambium injury in addition to a foliage injury. Severe injuries may have a considerable effect on the current risk from insect attack.

Cone Fade: Often, in seed years, needles behind the cones die and fade. Apparently this fading has no relation to risk.

Natural Needle Fall: During the fall months of the year, the normal fading of old needle complements may create an appearance of high risk. However, this needle fall is natural and the seasonal conditions should not be counted as a factor in determining the risk of individual trees.

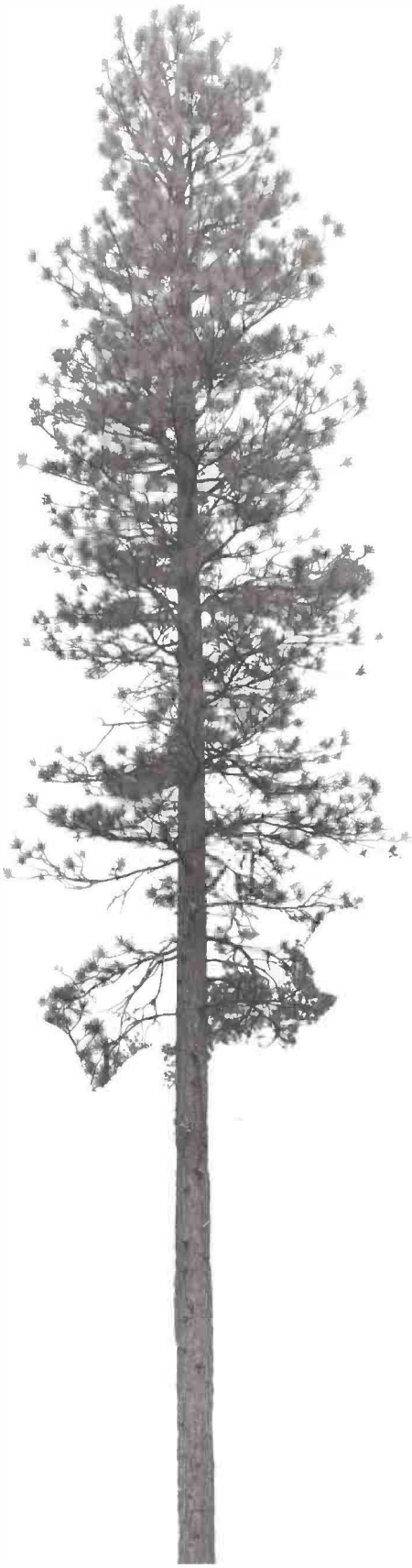
Natural Shading Out of Branches: On most trees in a fairly closed canopy the lower branches lose their foliage and die. Such natural shading out of branches does not indicate high risk. This must be differentiated from the dying of twigs and branches in the upper, unshaded parts of the crown, a condition which is considered a definite indication of high risk from insect attack.

In stands and in individual trees there apparently are no clearly marked steps in the change, over time, from a resistant to a susceptible condition or from a vigorous to a weakened condition. Those changes are marked by the appearance of no definite single character that can be used for all trees. Usually several or different evidences of deteriouration develop in different trees. Some appear to be more particularly concerned with the early stages of deterioration while others may be more closely connected with the later stages.

Revised April 17, 1942

Low Risk
Risk 1
Wygant's Negg. No. A-10

High Risk
Risk 4
Wygant's Negg. No. A-1



Low Risk
Risk 2

No. 11442A

High Risk
Risk 3

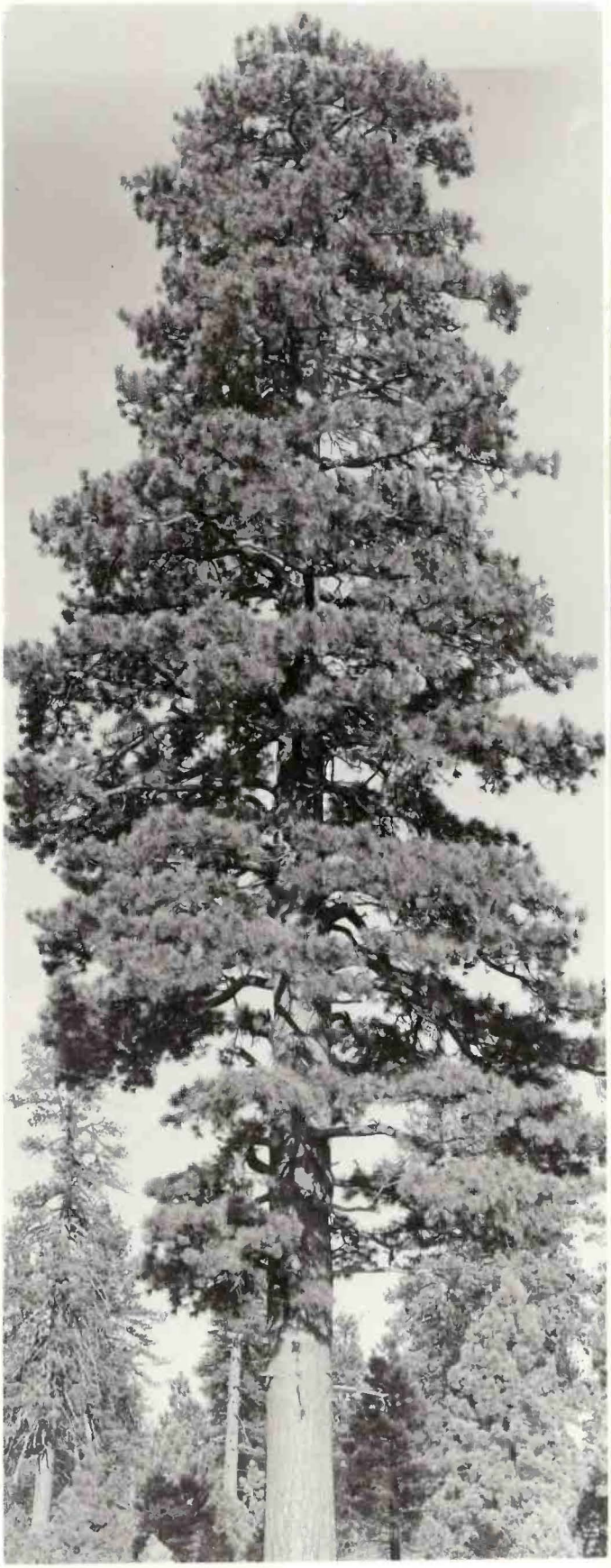
No. 11447A

Low Risk
Risk 2

No. 11432 A

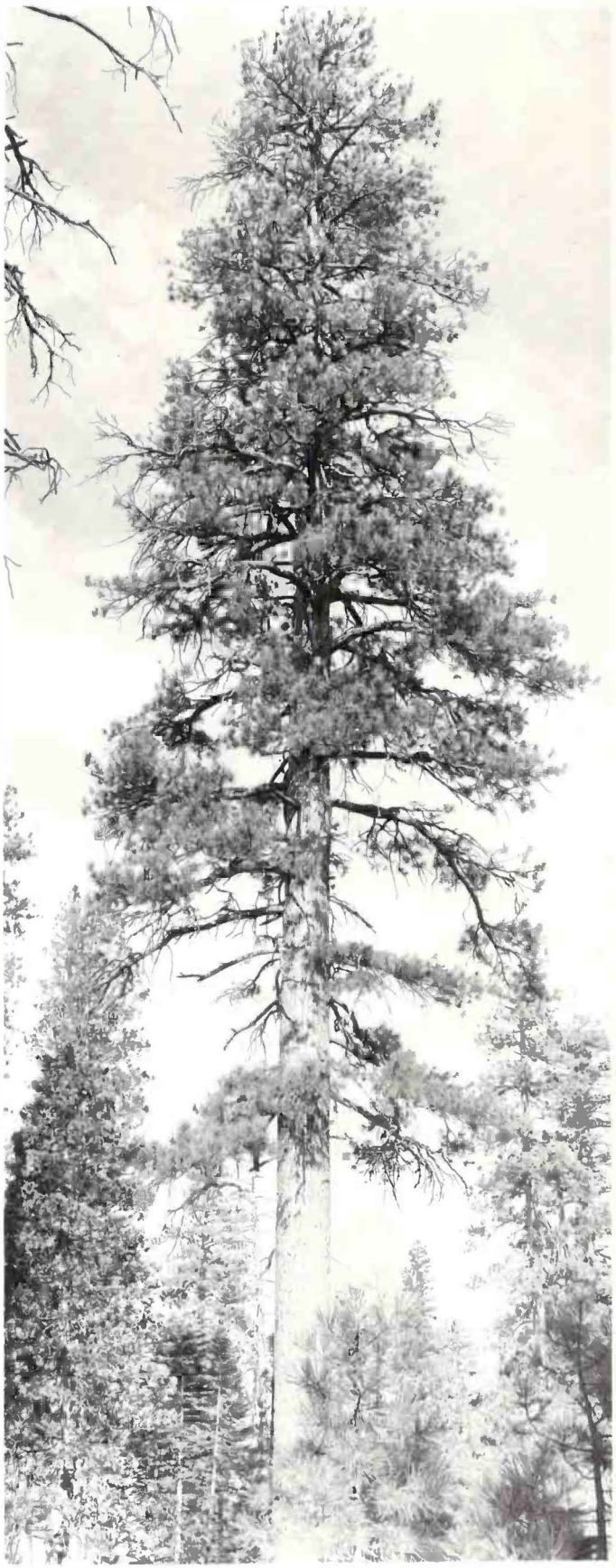
High Risk
Risk 4

No. 11439 A



Low Risk
Risk 1

Wyganks Neg. No. A-2



High Risk
Risk 3

No. 11424 B

RISK CLASSES FOR PONDEROSA PINE

Low Risk

High Risk

No. 11532

cc to Dr. Wagener 2
Bongberg 2